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PAPER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/810,938  
Filing Date: March 16, 2001  
Appellant(s): HJARTARSON ET AL.

\_\_\_\_\_  
Gudmundur Hjartarson et al.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/23/2008 appealing from the Office action mailed 06/23/2008.

**(1) Real Party in Interest**

A statement identifying by names the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

This appeal involves claims 1 – 21.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

|               |                |                   |
|---------------|----------------|-------------------|
| US 6522730 B1 | Timm et al.    | February 18, 2003 |
| 5889856       | O'Toole et al. | March 30, 1999    |

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 6, 8 – 16, 18 – 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Timm et al. (US 6522730 B1).

Regarding Claim 1, Timm et al. disclose the limitation of a line interface for coupling a twisted pair telephone line with a communications network (Fig. 1, Fig. 3, “splitter” interpreted as line interface, col.3, lines 32 – 39; “local loops” interpreted as a twisted pair telephone line, col. 3, lines 4 – 6), comprising: a broadband analog front end circuit coupling said twisted pair telephone line with said line interface (“splitter” interpreted as a broadband analog front end circuit, col. 3, lines 33 – 40); and a programmable filter (Fig. 4, “element 40 programmable filter circuitry” interpreted as a programmable filter, col. 4, lines 18 – 26) coupled to receive an output signal from said broadband analog front end circuit and configured to filter frequency bands of said output signal into a plurality of separate, variable bandwidth transmission channels (“the

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transmitted and received signals are adjusted to accommodate the new upstream and downstream data bands” interpreted as configured to filter frequency bands of said output signal into a plurality of separate, variable bandwidth transmission channels, col. 5, lines 1 – 9; col. 8, lines 36 - 43, 53 - 57), wherein said plurality of separate, variable bandwidth transmission channels are associated with said communications network, and wherein said frequency bands and said variable bandwidths are determined by programming said programmable filter (“could transition to a higher speed configuration by using the additional unused voice channel”, and “to add the bandwidth provided by the unused voice channel to the downstream band, or to allocate the additional bandwidth to both upstream and downstream channels”, col. 5, lines 65 – 67, col. 6, lines 1 – 16; Fig. 8, col. 6, lines 34 – 38).

Regarding Claim 2, Timm et al. disclose the limitation of communications network comprises a data network (Fig. 3, “element 36 to computer network” interpreted as a data network; col. 3, lines 20 – 22)

Regarding Claim 3, Timm et al. disclose the limitation of line interface comprising: an analog to digital converter circuit, coupled between said broadband analog front end circuit and said programmable filter (Fig. 4; element 44 DSL processing and control circuit” interpreted as analog to digital converter circuit, and “element 40 programmable filter circuitry” interpreted as programmable filter), configured to convert said output signal to a digital signal (col. 4, lines 31 – 39), wherein said programmable filter is a digital programmable filter (Fig. 4; element 40 as digital programmable filter, col. 4, lines 16 – 26).

Regarding Claim 4, Timm et al. disclose the limitation of plurality of separate transmission channels are directed to a plurality of different service providers (Fig. 2, Fig. 3, “voice frequency band between 0 and 3.4 kHz, upstream band using frequency spectrum between 30 KHz and 138 KHz, and downstream band using frequency spectrum between 181 KHz and 1.1 MHz” interpreted as plurality of separate transmission channels, column 3, lines 16 – 24, 32 – 40, voice transmission and data transmission interpreted as different service providers).

Regarding Claim 5, Timm et al. disclose the limitation of plurality of separate transmission channels are directed to a plurality of different modulation schemes (CAP (carrierless amplitude-phase) modulation and DMT (discrete multitone) modulation, along with other modulation techniques” interpreted as plurality of separate transmission channels are directed to a plurality of different modulation schemes, column 6, lines 57 – 65).

Regarding Claim 6, Timm et al. disclose the limitation of the line interface of said programmable filter is programmed with software (“software control” interpreted as line interface of said programmable filter is programmed with software, col. 6, lines 41 – 45).

Regarding Claim 8, Timm et al. disclose the limitation of the line interface wherein said plurality of separate frequency bands are determined according to a protocol including at least one of POTS, ISDN, ADSL, VDSL, SDSL, IDSL, HDSL, and HDSL2 (“ADSL, SDSL, RADSL” correlates to said plurality of separate frequency bands are determined according to a protocol including at least one of POTS, ISDN, ADSL, VDSL, SDSL, IDSL, HDSL, and HDSL2, col. 6, lines 61 – 65).

Regarding claim 9, Timm et al. disclose the limitation of the line interface wherein said plurality of separate frequency bands are determined according to a protocol including at least one of POTS, ISDN, ADSL, VDSL, SDSL, IDSL, HDSL, and HDSL2 (CAP (carrierless amplitude-phase) modulation interpreted as said plurality of separate frequency bands are determined according to a protocol including at least one of POTS, ISDN, ADSL, VDSL, SDSL, IDSL, HDSL, and HDSL2, col. 6, lines 57 – 65).

Regarding Claim 10, Timm et al. disclose the limitation of the line interface of said ADSL and said POTS coexist on said twisted pair telephone line (Fig. 3, “element 18 local loop” as coexist on said twisted pair telephone line, col. 3, lines 32 – 40).

Regarding Claim 11, Timm et al. disclose the limitation of the line interface comprising: a POTS detector circuit coupled to provide a POTS usage signal to said programmable filter indicating that a POTS bandwidth is in use (Fig. 4, element 42, hook detection circuitry” interpreted as a POTS detector circuit coupled to provide a POTS usage signal to said programmable filter indicating that a POTS bandwidth is in use, column 4, lines 15 – 26, “off-hook state” interpreted as indicating that a POTS bandwidth is in use , col. 5, lines 20 – 24, lines 57 – 60).

Regarding claim 12, Timm et al. disclose the line interface of claimed wherein an ADSL bandwidth is expended to include said POTS bandwidth when said POTS usage signal indicates that said POTS bandwidth is not in use (col. 5, lines 65 – 67, col. 6, lines 1 – 16, lines 34 – 40), and said ADSL bandwidth is reduced to exclude said POTS bandwidth when said POTS usage signal indicates that said POTS bandwidth is in use (“when the voice band is being used for voice communications”, col. 5, lines 57 – 63).

Regarding Claim 13, Timm et al. disclose the limitation of the line interface of claimed wherein said POTS detector circuit detects whether a telephone connected to said twisted pair telephone wire is on hook or off hook (Fig. 4, element 42, hook detection circuitry, col. 4, lines 39 – 55).

Regarding claim 14, Timm et al. disclose the limitation of the line interface of claimed wherein said POTS detector circuit determines if a POTS signal is communicated in said ADSL bandwidth or if said POTS signal is communicated in said POTS bandwidth (Fig. 6, Fig. 7, Fig. 8, col. 5, lines 57 – 67, col. 6, lines 1 – 16, lines 34 – 40).

Regarding claim 15, Timm et al. disclose the limitation of a method of providing a plurality of services over a twisted pair telephone line (“allows simultaneous voice band connections along with data transmission” interpreted as plurality of services over a twisted pair telephone line, Fig. 2, col. 3, lines 16 – 24), comprising the acts of: receiving a broadband analog signal from said twisted pair telephone line (col. 3, lines 7 – 10); filtering said broadband analog signal using a programmable filter (Fig. 4, element 40, programmable filter circuitry as programmable filter) into a plurality of separate bands wherein said plurality of separate bands are determined by programming said filter to generate a plurality of variable bandwidth channels (column 5, lines 1 – 9; col. 8, lines 36 – 43, 53 – 57); and transmitting said plurality of separate bands to a plurality of different service providers (Fig. 2, col. 3, lines 16 - 24, col. 4, lines 46 – 67).



Regarding claim 16, Timm et al. disclose the limitation of the method of claimed wherein said separate bands are transmitted to said plurality of different service providers through a data network and a voice network (“allows simultaneous voice band connections along with data transmission” interpreted as separate bands are transmitted to said plurality of different service providers through a data network and a voice network, where voice band connections correlates to voice network for voice service provider, and data transmission correlates to data network for data service provider, Fig. 2, col. 3, lines 16 – 24).

Regarding claims 18, 20, Timm et al. disclose the limitation of a line interface for coupling a twisted pair telephone line with a communications network (Fig. 1, Fig. 3, “splitter” interpreted as line interface, col.3, lines 32 – 39; “local loops” interpreted as a twisted pair telephone line, col. 3, lines 4 – 6), comprising: a broadband analog front end circuit coupling said twisted pair telephone line with said line interface (“splitter” interpreted as a broadband analog front end circuit, col. 3, lines 33 – 40); and a programmable filter (Fig. 4, element 40, programmable filter circuitry as programmable filter) coupled to receive an output signal from said broadband analog front end circuit and configured to filter frequency bands of said output signal into a plurality of different transmission channels (“adjusted to accommodate the new upstream and downstream data bands” interpreted as output signal into a plurality different transmission channels, col. 5, lines 1 – 9; col. 8, lines 36 – 43, 53 – 57) including: a first transmission channel having a first variable frequency bandwidth (“adjusted to accommodate the new upstream” interpreted as a first transmission channel having a first variable frequency

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bandwidth, column 5, lines 1 – 9); and a second transmission channel having a second variable frequency bandwidth (“adjusted to accommodate the new downstream data bands” interpreted as a second transmission channel having a second variable frequency bandwidth, column 5, lines 1 – 9), wherein said programmable filter can be programmed to adjust a band edge of either said first transmission channel or said second transmission channel to increase or decrease said first and second variable frequency bandwidths, respectively (Fig. 8, column 6, lines 34 – 40).

Regarding claims 19, 21, Timm et al. disclose a third transmission channel having a third variable frequency bandwidth (“voice band” interpreted as a third transmission channel having a third variable frequency bandwidth, col. 5, lines 57 – 67, col. 6, lines 1 – 9).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Timm et al. (US 6522730 B1) in view of O'Toole et al. (US 5889856)

Regarding Claim 7, Timm et al. disclose the limitation of a programmable filter (Fig. 4, element 40, programmable filter circuitry). Timm et al. do not disclose explicitly the line interface wherein said software is downloaded to said programmable filter.

O'Toole et al. teach the line interface wherein said software is downloaded to said programmable filter (col. 7, lines 54 – 61, recited allow for code updates as software is downloaded).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Timm et al. to include the features of line interface wherein said software is downloaded to said programmable filter as taught by O'Toole et al. in order to provide a dynamically-allocating Digital-Subscriber Line (DSL) modem dynamically allocates bandwidth among voice calls and unchannelized user data (as suggested by O'Toole et al., see column 3, lines 66 – 67, column 4, line 1).

Regarding claim 17, Timm et al. disclose the limitation of a programmable filter (Fig. 4, element 40, programmable filter circuitry). Timm et al. do not disclose claimed wherein said programmable filter is upgraded by programming said filter with software.

O'Toole et al. discloses the limitation of the method of claimed wherein said programmable filter is upgraded by programming said filter with software (recited “the updateable flash ROM and volatile memory allow for code updates, fixes and enhancements”; col. 7, lines 54 – 61).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Timm et al. to include the features of claimed wherein said programmable filter is upgraded by programming said filter with software as taught by O'Toole et al. in order to provide a dynamically-allocating Digital-Subscriber Line (DSL) modem dynamically allocates bandwidth among

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voice calls and unchannelized user data (as suggested by O'Toole et al., see column 3, lines 66 – 67, column 4, line 1).

## **(10) Response to Argument**

### **1. Claim 1 is not anticipated by Timm et al.**

In response to the argument, first comes first, Appellants merely rely on appellant's Figure 3 to justify their preferred embodiment of the Appellants' invention. It stated that "As is readily evident from Figure 3, there are a plurality of outputs from the digital programmable filter 66 consistent with the language in Claim 1 that the programmable filter is configured to filter frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels". The statement is not true. However, based on the current configuration of the drawing, the diagram is a bit misleading and does not indicate explicitly frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels including POTs frequency band, upstream and downstream frequency bands. The claimed subject matter "the programmable filter is configured to filter frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels" is very vague. It is not clear whether the claimed subject matter of output signal into a plurality of separate, variable bandwidth transmission channels simultaneously for POTs frequency band, upstream and downstream frequency bands or output signal into a plurality of separate, variable bandwidth transmission channels one variable bandwidth at a time for POTs frequency band, upstream and downstream frequency bands.

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Examiner notices Appellant's Figure 3 correlates with Appellant's Figures 5 and 6. "a plurality of separate, variable bandwidth transmission channels" is interpreted as POTs, upstream and downstream frequency bands (see appellant's specification, pages 5 and 6). Examiner considers Appellant's Figure 3 is for illustrated purpose only for the output frequency band one at time for the configured center frequency of that particular frequency band (pre-programmed in the programmable filter). The exact embodiment of the appellant's disclosure is disclosed clearly in pages 5 to 6 for Figures 5 and 6.

**Regarding claim 1**, Appellants argue that reference Timm et al. does not teach or suggest a programmable filter coupled *to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels*.

In response to appellants' argument stated above, Examiner respectfully disagrees with appellant's argument. Examiner contends reference Timm et al. disclose a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of separate, variable bandwidth transmission channels. As addressed before in the office action, Examiner interpreted the broadband analog front end circuit as splitter depicted in Figure 3 of Timm et al. col. 3, lines 33 – 40; and interpreted "configured to filter frequency bands of said output signal into a plurality of separate, variable bandwidth transmission channels" as the transmitted and received signals are adjusted to accommodate the new upstream and downstream data bands, see reference Timm,

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col. 5, lines 1 – 9; col. 8, lines 36 - 43, 53 – 57, see also Fig. 6A – 6D, 7A – 7D, 8A – 8D. The Figures (Fig. 6A – 6D, 7A – 7D, 8A – 8D ) disclosed by Timm et al. correlates to the disclosure by appellant's specification describing in pages 5 to 6.

For the above reason, it is believed that the rejection to claim 1 is sustained. For the same reason that the rejection to Claims 2, 6 and 8 through 14 depend directly or indirectly from Claim 1 are sustained as well.

## **2. Claim 3 is not anticipated by Timm et al.**

**Regarding claim 3**, Appellants merely remark that claim 3 requires that the analog digital converter is coupled between the broadband analog front end circuit and the programmable filter. Notably, the Examiner is relying upon splitter 30 of Timm et al. to satisfy the broadband analog front end circuit. The Examiner is further relying upon element 44 of Timm et al. to satisfy the analog to digital converter circuit. As is readily evident from Figure 4 of Timm et al. and the corresponding description, splitter 30 is positioned to the right of programmable filter 40. Hence, element 44 is not coupled between element 40 and element 30.

In response to appellants' argument stated above, Examiner respectfully disagrees with appellant's assertion. Examiner contends reference Timm et al. teach the analog digital converter is coupled between the broadband analog front end circuit and the programmable filter. Examiner interpreted an analog to digital converter circuit, as Fig. 4; element 44 DSL processing and control circuit, see Fig. 4, and Fig. 5, see col. 6, lines 46 – 65.

For the above reason, it is believed that the rejection to claim 3 is sustained.

**3. Claim 4 is not anticipated by Timm et al.**

**Regarding claim 4**, appellant argues Claim 4, which includes all of the limitations of Claim 1, requires that the programmable be configured to filter frequency bands of an output signal from a broadband analog front end circuit into a plurality of separate, variable bandwidth transmission channels and the plurality of separate transmission channels are provided to a plurality of different service providers. Timm et al. uses splitter 30 (not programmable filter 40) to separate the voice band from the DSL band before the signal ever reaches the programmable filter 40. (See Timm et al., col. 3, lines 32-34, "[i]n order to separate the voice band from the DSL bands, splitters are used, as shown in FIG. 3.") Hence, filter 40 of Timm et al. cannot possibly provide two separate transmission channels to two different service providers as the voice band never passes through the filter 40. Examiner respectfully disagrees.

In response to appellants' argument stated above, Examiner respectfully disagrees with appellants' argument. Examiner contends reference Timm et al. teach plurality of separate transmission channels are directed to a plurality of different service providers. Examiner interpreted voice transmission and data transmission can occur simultaneously over a single physical connection (i.e. The local loop). Second, the data connection is permanent .....connection to the Internet Service Provider" interpreted as different service providers, see Fig. 2, Fig. 3, "voice frequency band between 0 and 3.4 kHz, upstream band using frequency spectrum between 30 KHz and 138 KHz, and downstream band using frequency spectrum between 181 KHz and 1.1 MHz", col. 3,

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lines 16 – 24, lines 32 – 40, lines 55 – 64. Note that local loop is voice service provider, and Internet Service Provider is data service provider.

For the above reason, it is believed that the rejection to claim 4 is sustained.

**4. Claim 5 is not anticipated by Timm et al.**

**Regarding claim 5**, Appellants argue nowhere does the cited passage of Timm et al. disclose that a plurality of separate, variable bandwidth transmission channels provided by a programmable filter comprise a plurality of signals with a plurality of different modulation schemes. The cited passage of Timm et al. merely recites various modulation schemes. Examiner respectfully disagrees.

In response to appellants' argument stated above, Examiner respectfully disagrees with appellants' argument. Examiner contends reference Timm et al. teach a plurality of separate, variable bandwidth transmission channels comprise a plurality of signals with a plurality of different modulation schemes. Examiner interpreted plurality of separate transmission channels are directed to a plurality of different modulation schemes as CAP (carrierless amplitude-phase) modulation and DMT (discrete multitone) modulation, along with other modulation techniques", see Timm et al., col. 6, lines 57 – 65.

For the above reason, it is believed that the rejection to claim 5 is sustained.

**5. Claim 15 is not anticipated by Timm et al.**



**Regarding claim 15**, Appellants argue reference Timm et al. does not teach or suggest at least the step of filtering the broadband analog signal using a programmable filter into a plurality of separate bands wherein the plurality of separate bands are determined by programming the filter to generate a plurality of variable bandwidth channels. Further, Timm et al. does not teach or suggest the step of transmitting the plurality of separate bands to a plurality of different service provider. Examiner respectfully disagrees.

In response to appellants' argument stated above, Examiner respectfully disagrees with appellants' argument. Examiner contends reference Timm et al. teach at least the step of filtering the broadband analog signal using a programmable filter into a plurality of separate bands wherein the plurality of separate bands are determined by programming the filter to generate a plurality of variable bandwidth channels, and the step of transmitting the plurality of separate bands to a plurality of different service provider.

Examiner interpreted "filtering the broadband analog signal using a programmable filter into a plurality of separate bands wherein the plurality of separate bands are determined by programming the filter to generate a plurality of variable bandwidth channels" as the transmitted and received signals are adjusted to accommodate the new upstream and downstream data bands, see reference Timm, col. 5, lines 1 – 9; col. 8, lines 36 - 43, 53 – 57, see also Fig. 6A – 6D, 7A – 7D, 8A – 8D. The Figures (Fig. 6A – 6D, 7A – 7D, 8A – 8D, and interpreted "transmitting said plurality of separate bands to a plurality of different service providers" as voice transmission and

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data transmission can occur simultaneously over a single physical connection (i.e. The local loop). Second, the data connection is permanent .....connection to the Internet Service Provider” interpreted as different service providers, see Fig. 2, Fig. 3, “voice frequency band between 0 and 3.4 kHz, upstream band using frequency spectrum between 30 KHz and 138 KHz, and downstream band using frequency spectrum between 181 KHz and 1.1 MHz”, col. 3, lines 16 – 24, lines 32 – 40, lines 55 – 64. Note that local loop is voice service provider, and Internet Service Provider is data service provider.

For the above reason, it is believed that the rejection to claim 15 is sustained.

#### **6. Claim 18 is not anticipated by Timm et al.**

**Regarding claim 18**, appellants' remark that Appellants' invention, as recited in Claim 18, is directed to a line interface for coupling a twisted pair telephone line with a communications network. The line interface includes a broadband analog front end circuit coupling the twisted pair telephone line with the line interface and a programmable filter coupled to receive an output signal from the broadband analog front end circuit and configured to filter frequency bands of the output signal into a plurality of different transmission channels. The plurality of different transmission channels include a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth wherein the programmable filter can be programmed to adjust a band edge of either the first transmission channel or the second transmission channel to increase or decrease the

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first and second variable frequency bandwidths, respectively. Examiner respectfully disagrees.

In response to appellants' remark stated above, Examiner respectfully disagrees with appellants' assertion. Examiner contends reference Timm et al. teach all the limitations as disclosed in claim 18.

Examiner interpreted a line interface for coupling a twisted pair telephone line with a communications network as splitter as a line interface, and "local loops" interpreted as a twisted pair telephone line, see Fig. 1, Fig. 3, col.3, lines 32 – 39, col. 3, lines 4 – 6, and interpreted a broadband analog front end circuit coupling said twisted pair telephone line with said line interface as splitter, see col. 3, lines 33 – 40; and interpreted a programmable filter as Fig. 4, element 40, programmable filter circuitry coupled to receive an output signal from said broadband analog front end circuit and interpreted "configured to filter frequency bands of said output signal into a plurality of different transmission channels" as "adjusted to accommodate the new upstream and downstream data bands, see col. 5, lines 1 – 9; col. 8, lines 36 – 43, 53 – 57, and Examiner further interpreted "a first transmission channel having a first variable frequency bandwidth" as "adjusted to accommodate the new upstream" see col. 5, lines 1 – 9; and interpreted "a second transmission channel having a second variable frequency bandwidth" as adjusted to accommodate the new downstream data bands, see col. 5, lines 1 – 9, then interpreted "wherein said programmable filter can be programmed to adjust a band edge of either said first transmission channel or said

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second transmission channel to increase or decrease said first and second variable frequency bandwidths, respectively” as desirable to add the bandwidth provided by the unused voice channel to the downstream band, or to allocate the additional bandwidth to both upstream and downstream channels. Such an allocation is shown in FIG. 8, where the filter points for the receive and transmit filters in both the user modem 36 and CO modem 38 have been changed, see Timm et al. Fig. 8, col. 6, lines 34 – 40.

For the above reason, it is believed that the rejection to claim 18 is sustained.

#### **7. Claim 19 is not anticipated by Timm et al.**

**Regarding claim 19**, Appellant remarks that Claim 19 further requires the programmable filter to filter the frequency bands of the output signal into three variable frequency bands. As explained in connection with Claim 18, Timm et al. does not teach or suggest a programmable filter that filters the frequency bands of the output signal into two variable frequency bands. As such, Timm et al. clearly does not anticipate Claim 19.

Examiner respectfully disagrees.

In response to appellants’ remark stated above, Examiner respectfully disagrees with appellants’ argument. Examiner contends reference Timm et al. teach all the limitations as disclosed in claim 18, a programmable filter that filters the frequency bands of the output signal into two variable frequency bands and a third transmission channel having a third variable frequency bandwidth. Examiner a programmable filter that filters the frequency bands of the output signal into two variable frequency bands as

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a first transmission channel having a first variable frequency bandwidth” as “adjusted to accommodate the new upstream” see col. 5, lines 1 – 9; and interpreted “a second transmission channel having a second variable frequency bandwidth” as adjusted to accommodate the new downstream data bands, see col. 5, lines 1 – 9, and interpreted a third transmission channel having a third variable frequency bandwidth as “voice band” see Timm et al., col. 5, lines 57 – 67, col. 6, lines 1 – 9.

For the above reason, it is believed that the rejection to claim 19 is sustained.

#### **8. Claim 20 is not anticipated by Timm et al.**

**Regarding claim 20**, Appellants argue reference Timm et al. does not anticipate Claim 20 as it does not disclose the filtering step or the transmitting step. As explained previously, the programmable filter of Timm et al. does not filter a broadband analog signal into a plurality of separate frequency bands including a first transmission channel having a first variable frequency bandwidth and a second transmission channel having a second variable frequency bandwidth.

In response to appellants’ remark stated above, Examiner respectfully disagrees with appellants’ argument. Examiner contends reference Timm et al. teach the filtering step or the transmitting step as voice transmission and data transmission can occur simultaneously over a single physical connection (i.e. The local loop). Second, the data connection is permanent .....connection to the Internet Service Provider” interpreted as different service providers, see Fig. 2, Fig. 3, “voice frequency band between 0 and 3.4 kHz, upstream band using frequency spectrum between 30 KHz and 138 KHz, and

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downstream band using frequency spectrum between 181 KHz and 1.1 MHz", col. 3, lines 16 – 24, lines 32 – 40, lines 55 – 64. Note that local loop is voice service provider, and Internet Service Provider is data service provider

For the above reason, it is believed that the rejection to claim 20 is sustained.

### **CLAIMS 7 AND 17 UNDER 35 USC 103**

**Regarding claim 7**, appellants argue Claim 7 is not rendered obvious by the combination of Timm et al. and O'Toole et al. Claim 7 depends from Claim 6 that in turn depends from Claim 1. Because O'Toole does not supply the material deficiencies of Timm et al. noted in connection with Claim 1, the Examiner's proposed combination does not render obvious Claim 7. Further, the Examiner alleges that O'Toole et al. "teach the line interface wherein said software is downloaded to said programmable filter (col. 7, lines 54-61, recited allow for code updates as software is downloaded)." (See Official Action dated June 23, 2008, p. 9) However, the cited passage in O'Toole refers to firmware not software. For at least these reasons, the proposed combination does not render obvious Appellants' invention recited in Claim 7.

In response to appellants' remark stated above, Examiner respectfully disagrees with appellants' assertion. Examiner contends the combined system of Timm et al. and O'Toole et al. teaches all the limitations of claim 1 and claim 6, and the line interface wherein said software is downloaded to said programmable filter. Claim 1 and claim 6 disclose programmable filter as disclosed by reference Timm et al., except explicitly the software download. While reference O'Toole et al. remedy the deficiencies of Timm et

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al. by providing software download. Examiner interpreted software is downloaded as allow for code updates, see O'Toole et al., col. 7, lines 54 - 61. Remark — according to Wikipedia, the free encyclopedia, "Firmware is a term sometimes used to denote the fixed, usually rather small, programs that internally control various electronic devices".

For the above reason, it is believed that the combined system of Timm et al. and O'Toole et al. rejection to claim 7 is sustained.

**Regarding claim 17**, appellants argue that Claim 17 is not rendered obvious by the combination of Timm et al. and O'Toole et al. Claim 7 depends from Claim 15. Because O'Toole does not supply the material deficiencies of Timm et al. noted in connection with Claim 15, the Examiner's proposed combination does not render obvious Claim 17. Further, the Examiner alleges that O'Toole et al. "discloses the limitation of the method of claimed wherein said programmable filter is upgraded by programming said filter with software (recited 'the updateable flash ROM and volatile memory allow for code updates, fixes and enhancements'; col. 7, lines 54-61)." (See Official Action dated June 23, 2008, p. 9) However, the cited passage in O'Toole refers to firmware not software. For at least these reasons, the proposed combination does not render obvious Appellants' invention recited in Claim 17.

In response to appellants' remark stated above, Examiner respectfully disagrees with appellants' assertion. Examiner contends the combined system of Timm et al. and O'Toole et al. teaches all the limitations of claim 15 and said programmable filter is upgraded by programming said filter with software. Claim 15 discloses programmable

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filer as disclosed by reference Timm et al., except explicitly said programmable filter is upgraded by programming said filter with software. While reference O'Toole et al. remedy the deficiencies of Timm et al. by providing said programmable filter is upgraded by programming said filter with software. Examiner interpreted said programmable filter is upgraded by programming said filter with software as 'the updateable flash ROM and volatile memory allow for code updates, fixes and enhancements, see O'Toole et al., col. 7, lines 54 - 61. Remark — according to Wikipedia, the free encyclopedia, "Firmware is a term sometimes used to denote the fixed, usually rather small, programs that internally control various electronic devices".

For the above reason, it is believed that the combined system of Timm et al. and O'Toole et al. rejection to claim 17 is sustained

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections for the claims 1 – 21 should be sustained.

Respectfully submitted,

/Andrew C Lee/

Examiner, Art Unit 2419

Conferees:



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/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2419

/Jayanti K. Patel/

Supervisory Patent Examiner, Art Unit 2419